MISCELLANEOUS PHENOMENA.

Under the above title it has been the custom for a century past throughout the world to invite all meteorological observers to make a record of a large variety of phenomena that are somewhat beyond the range of technical meteorology. Among these, in the first class, comes the phenomena that are ordinarily considered to belong to climatology, such as the migrations and habits of birds, mammals, and fishes; the freezing of lakes and rivers and the soil; the times of leafing, flowering, and ripening of plants.

In addition to climatology, there were included phenomena that belong to terrestrial physics, and may have some possible relation to meteorology, such as the shooting stars or meteors, the aurora, the earthquake and the ocean waves, or so-called tidal waves and storm waves.

By a resolution of a recent international meteorological congress the whole subject of terrestrial magnetism has been committed to the meteorological services when not otherwise specially provided for.

As the weather and the climate are subjects that directly affect every branch of human industry, it naturally happens that the number of meteorological observers far excells the sum total of all who are specially engaged in observing earthquakes, magnetics, meteors or any other terrestrial phenomenon, and it does seem desirable that they should contribute, as far as possible, to our knowledge of all that is going on about us. Is it not the duty of every one to contribute his mite toward the observations and investigations that are gradually enlarging our knowledge of the earth as the home of man?

The habits of regularity and exactness and the love of nature that distinguish our voluntary observers render it certain that science must look to them for work in the abovementioned lines of miscellaneous observation. The earthquakes that occur throughout our country have awakened a desire to know more about their nature and origin. Those who cannot establish and maintain the Marvin seismograph, or some of the simpler forms, can at least take the greatest pains to keep a daily record of the errors of their watches or clocks on standard time, so that when an earthquake is observed they may be able to state the time correctly to within a few seconds, instead of making such a crude record as "about 10 or 15 minutes after 5 a. m." An exact record of the time of beginning and ending is of more use to the student of the subject than a general statement as to the direction or severity of the shock.

As self-registering meteorological and magnetic apparatus frequently show peculiar marks that are sometimes known to have been caused by slight earthquake disturbances, it is generally recognized as very desirable that a seismograph should be established in every magnetic and meteorological observatory where continuous registers are employed. In so far as this new piece of apparatus can be added to the others at our stations, we shall have the means of explaining anomalies on the automatic record sheets.

The editor desires to repeat a statement made by him on several occasions, namely, that the Weather Bureau seismograph is not only an efficient earthquake indicator, but an equally efficient burglar detector. A seismograph set up within or on a large safe, or within the vault of a safe deposit company would, by means of the proper telegraphic connections, give immediate notice of any serious disturbance by burglars. Those of our banks who maintain such instruments in working order and keep the record closely regulated to standard time, will contribute not only to their own security but to the collection of data important to the study of earthquakes.

This is a field in which the Weather Bureau and the banks can advantageously cooperate.

OBSERVATIONS AT HONOLULU.

Meteorological observations at Honolulu, Republic of Hawaii, by Curtis J. Lyons, Meteorologist to the Government Survey.

Pressure is corrected for temperature and reduced to sea level, but the gravity correction, —0.06, is still to be applied.

The absolute humidity is expressed in grains of water, per cubic foot, and is the average of four observations daily.

The average direction and force of the wind and the average cloudiness for the whole day are given unless they have varied more than usual, in which case the extremes are given. The scale of wind force is 0 to 10.

The rainfall for twenty-four hours is given as measured at 6 a. m. on the respective dates.

	Pressure at sea level.			Temperature.					Humidity.			Wind.		Cloudiness.	Rain measured at 6 a. m.
July, 1895.	9 a. m.	3 p. m.	9 p. m.	6 a. m.	2 p. m.	9 p. m.	Maximum.	Minimum.	Relative. 9 a. m.	Relative. 9 p. m.	Absolute.	Direction.	Force.		
	Ins.	*Ins.*	*Ins.*	°	°	°	°	°	%	%					*Ins.*
1..	30.18	30.10	30.14	74	78	75	80	72	85	70	6.9	ne.	4	6	0.21
2..	30.11	30.04	30.08	74	80	76	82	72	61	67	6.2	nne.	4	6-3	0.08
3..	30.08	30.04	30.10	74	82	75	83	71	68	74	6.7	ne.	4	4	0.11
4..	30.12	30.07	30.14	72	78	74	83	71	70	80	7.4	ne.	3	5	0.10
5..	30.13	30.07	30.13	70	82	75	83	70	70	74	7.2	ne.	2	3	0.15
6..	30.10	30.02	30.06	72	80	75	83	67	74	70	7.1	ne.	2	4	0.02
7..	30.07	30.00	30.04	77	83	75	84	71	67	74	7.0	ene.	3	0-6	0.00
8..	30.04	30.00	30.04	76	83	76	84	69	63	70	6.8	ene.	2	3	0.14
9..	30.03	29.99	30.08	76	82	76	83	70	60	70	6.8	e.	2	2	0.00
10..	30.08	30.04	30.09	76	83	77	84	71	58	67	6.8	ne.	2	1	0.00
11..	30.09	30.03	30.08	76	82	76	83	71	63	62	6.8	nne.	3	4	0.05
12..	30.06	30.01	30.05	75	82	75	83	72	63	66	6.6	e.	2	4-2	0.00
13..	30.04	29.99	30.03	76	83	76	84	71	60	70	6.7	ne.	3	2	0.00
14..	30.04	29.99	30.05	77	80	76	84	72	60	77	7.2	ne.	3	3-10	0.05
15..	30.03	30.00	30.06	76	81	77	84	73	72	72	7.1	ne.	4	4-9	0.03
16..	30.06	30.03	30.07	77	81	77	83	74	63	74	7.2	e.	3	5-8	0.02
17..	30.09	30.03	30.07	76	81	77	83	73	60	64	6.9	ne.	4	6	0.04
18..	30.07	30.00	30.04	77	81	76	84	75	56	67	6.7	ene.	2	3	0.00
19..	30.04	30.00	30.05	72	82	76	85	71	60	67	6.7	ne.	3	3	0.11
20..	30.04	29.99	30.04	76	85	78	86	74	60	71	7.0	ne.	2	3	0.04
21..	30.06	30.03	30.08	79	83	78	85	77	60	74	7.5	ne.	3	3	0.00
22..	30.13	30.04	30.11	78	81	77	83	76	61	65	6.7	ene.	4	5	0.00
23..	30.08	30.00	30.05	76	82	75	84	74	60	80	6.8	ne.	5	2	0.00
24..	30.05	30.00	30.04	75	82	77	84	74	66	70	7.1	nne.	5	2	0.05
25..	30.07	30.05	30.09	76	82	76	85	75	58	67	6.6	ene.	3	3-4	0.00
26..	30.09	30.02	30.07	74	83	76	85	72	64	70	6.8	ne.	3	2	0.00
27..	30.06	30.00	30.04	72	83	76	84	72	70	74	7.3	ne.	3	5	0.05
28..	30.07	30.03	30.09	75	84	78	86	72	70	70	7.4	ne.	3	3	0.13
29..	30.10	30.06	30.10	76	82	75	86	74	67	78	7.2	ne.	3	5	0.03
30..	30.09	29.99	30.05	73	84	77	85	71	74	74	7.5	ne.	3	2-5	0.07
31..	30.00	29.94	30.00	75	82	78	83	75	77	75	8.0	ne.	3	7-10	0.07
	30.07	30.02	30.07	75.1	81.8	76.7	83.8	72.3	64.3	70.7	7.0	.....	.....	.....	1.55

The monthly summary for July is: Mean temperature, 77.7°; the normal is 78.3; extreme temperatures, 85 and 69. Disturbance periods occurred on the 1st, 16th, 22d, and 31st. Humidity and temperature this month higher than for two years, and barometer down at last to normal. Very heavy rain on the Island of Hawaii on the 31st. Slight earthquake, Hawaii, 16th.

OBSERVATIONS IN ALASKA.

The accompanying tables, on pp. 281, 282, present in full the record of meteorological observations just received from V. C. Gambell, voluntary observer at St. Lawrence Island, Alaska; latitude 63° 34′ N., longitude 171° 45′ W.; height above sea, 30 feet. The thermometers were 6 feet above the ground; the rain gauge is stated to be 20 feet above ground, but this may be a slip for "above sea level." The instruments were furnished by the Weather Bureau, but the rain gauge was not received by Mr. Gambell until May, 1895. Apparently he read only the maximum and minimum thermometers during October, November, and December, 1894, but in January, 1895, he began to read the standard dry thermometer at 7 a. m., 2 p. m., and 9 p. m., local time, in addition to the maximum and minimum thermometer. The blanks in the columns of wind direction and force are published as recorded, but are presumed to be intended for calms and have been so treated by the observer in computing the average wind force. The expressions "snow" and "a little snow" in the original record appear to refer to amounts that were too small for measurement or that could not be measured on account of drifting; for convenience of printing they are replaced by a * and †, respectively. The depth of snow on the ground at the middle and end of the month gives a little better idea of the snowfall than do these individual statements. The observer has recorded the dates of solar and lunar halos without further